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Sustaining Our Competitive Advantage

Thinking is competing

by Maj Sean F.X. Barrett, Dr. Mie Augier & MajGen William F. Mullen III

It is not always true that the organization with the newest or most equipment wins the competition. Sometimes the side that is able to combine adequate material with innovative ideas becomes the winner.¹

—MCDP 1-4

Maneuver warfare requires intelligent leaders at all levels who possess a bias for intelligent action. Success in warfare depends on Marines developing an intellectual edge to accurately recognize cues, quickly make sense of information, and respond effectively.²

—MCDP 7

Today's strategic environment features rapid technological change within interactively complex systems. New technologies are increasingly accessible to more and more actors, leading to a sense that we are falling behind our adversaries, or at least failing to maintain our "technological advantage." The 2018 *National Defense Strategy*, for example, notes the "drive to develop new technologies is relentless," necessitating "changes to industry culture, investment sources, and protection across the National Security Innovation Base."³ Over the past several years, the DOD has tried to adapt to this challenging reality by establishing new organiza-

tions, such as the Defense Innovation Unit and the Joint Artificial Intelligence Center, to more quickly and effectively leverage emerging commercial technologies. The Department of the Navy also established NavalX and a network of

Tech Bridges to help maintain our technical edge.⁴ These organizations have held a variety of well-publicized "pitch" and "industry" days and "H4D" (hacking for defense) events. This strong emphasis on technology, however, can lead people to draw the conclusion that technological innovation matters more than tactical and organizational capabilities and competencies and our Marines' ability to think creatively and critically and act decisively. One need look no further than May 1940, when the German military defeated a technologically superior French military in a matter of six weeks, to realize this assumption is not accurate.

Encouragingly, however, the newest Marine Corps doctrinal publication, *MCDP 1-4, Competition*, reinforces some important themes from the recently published *MCDP 7, Learning*, both of which are natural extensions of *FMFM 1, Warfighting*.⁵ *MCDP 1-4* identifies education as "a primary method for Marines to sustain competitive advantage over time."⁶ Given all of the defense

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budget forecasts trending negative and the inherent difficulty in keeping up with technological change, education will likely play an even more important role moving forward.⁷ *MCDP 1-4* also reminds us of the importance of identifying and protecting our own weaknesses from being exploited, even as we try to exploit those of our adversaries. Thus, while well-intentioned, the DOD's emphasis on technological innovation must be tempered by the fact that our most challenging and likely adversary, China, is integrated in global supply chains and our research and development, which it leverages to acquire nascent technologies with minimal investment or risk. However, even though the Chinese can access our intellectual property at a rapid rate, they cannot easily erode our ability to think, and for a variety of organizational, historical, societal, and institutional reasons, it is difficult for Chinese culture to embrace creative and innovative thinking. Thus, for us, prioritizing education and thinking in our approach to competition becomes even *more* important, as it exploits a known weak point for China, which tends to value conformity.⁸

This article does not intend to suggest that technology can be ignored or does not matter, but rather to swing the pendulum back toward focusing on people first.⁹ After all, it is our Marines that will ultimately have to develop ways to incorporate and effectively employ any new technologies, and the intellectual readiness and mental agility of our leaders is essential to fulfilling our maneuver warfare philosophy, which is dependent on leaders who understand it and can take intelligent initiative based off intent. In this article, we hope to help explain some of the ideas and concepts *MCDP 1-4* identifies as essential for leaders to master to lead organizations through long-term competition by using a few examples from the maneuver warfare movement and Gen Al Gray's leadership. We also identify some of the individual and organizational learning mechanisms needed to ensure we have the leaders capable of mastering these concepts and emphasize the value of reading to our profession and our identities as Marines. We conclude by noting

the vital role leaders play in inspiring an enthusiasm for learning at the individual level and nurturing a culture that enables it at an organizational level. We hope our discussion can help both in understanding some learning mechanisms the Corps can nurture and in explaining how these mechanisms can foster better learning (and better competing) organizations.

"In the conditions of modern life, this rule is absolute: the race which does not value trained intelligence is doomed. Not all your heroism, not all your social charm, not all your wit, not all your victories on land or sea, can move back the finger of fate."¹⁰

—Alfred North Whitehead

Leading Learning Organizations for Competition

MCDP 1-4 identifies education as a key enabler of innovation and central to creating and sustaining competitive advantage.¹¹ Recognizing the need for holistic thinking, *MCDP 1-4* explains that in order for Marine leaders to lead the Corps through "cycles of innovation," they must master topics such as organizational learning, change management, and the difference between sustaining and disruptive innovations.¹² *MCDP 1-4*, however, defines organizational learning in a fundamentally passive manner. Organizations must not only sense and respond to changes in the environment but also have mechanisms and capabilities in place to proactively search for and generate new knowledge. Additionally, they must

be able to strike a balance between "the exploration of new possibilities and the exploitation of old certainties"¹³ and not simply know the difference between the two.¹⁴ Experimentation, maintaining open minds, and education play key roles in organizations not only remaining adaptive and able to refine existing processes and practices but also agile and able to simultaneously pursue innovation.

Gen Gray maintained this balance, built and enabled mechanisms for individual and organizational learning, and changed the Marine Corps' warfighting philosophy by taking a bottom-up approach that challenged and inspired even the most junior Marines to take education and professional self-study seriously. He empowered them to develop and exercise the judgment necessary to act intelligently and decisively based on commander's intent. As a result, his Marines felt they were helping build something new and were intrinsically motivated by a professional calling and their identity as Marines. They claimed ownership of the movement and served as apostles who not only helped test and refine the maneuver philosophy but also helped generate the enthusiasm and momentum necessary to broaden the base of the movement. Gen Gray did so, in part, by emphasizing experimentation, testing the limits of theories, destigmatizing failure, and valuing ideas (even from outsiders) over rank and titles.

Experimentation and Learning to Fail. When Gen Gray took over as CG, 2d MarDiv, he established the Maneuver Warfare Board as a clearinghouse for maneuver ideas and as an experimental outfit to test them. Marines read articles about maneuver ideas and then discussed them in small groups and applied them to different warfighting functions. Their different perspectives, based on different experiences, yielded different insights that—when externalized and recombined—helped refine the maneuver tactics and philosophy of the division. The Marines then tested these ideas in the field in increasingly larger exercises, culminating in division-wide "free-play" or "force-on-force" exercises at Fort Pickett. In contrast to scripted scenarios, these exercises more realisti-

cally recreated combat conditions, and commanders had to actively compete against and outwit a thinking enemy (i.e., their peers). Whereas scripted scenarios tend to foster a risk averse, “box checking” mentality, these exercises fostered open-ended competition that spurred new and innovative ideas. Self-study, the Maneuver Warfare Board, and these exercises served as mechanisms for *generating* new tactics and insights as opposed to simply *reacting* to changes in the environment. This is imperative to sustaining our competitive advantage and not ceding the initiative to our adversaries.

Recognizing that failure is inherent in experimentation and in order to mitigate fears of failure, Gen Gray emphasized process over result. He was always more concerned about *why* a Marine did something rather than with *what* he did. Marines needed to practice making decisions under uncertain, ambiguous conditions and learn from their mistakes. This helped facilitate learning at both the individual and organizational level, as feedback from failures and experiments nurtures creativity and builds a greater capacity to learn—from both individual experiences and those of others. Additionally, Gray’s bottom-up approach enhanced his Marines’ commitment to, and trust in, the group and positively reinforced their enthusiasm for professional self-study.

Openness to ideas. Part of learning from failure is having the humility and courage to admit you are wrong, or your ideas could be improved. *MCDP 1-4* notes the importance of mental flexibility, humility, and questioning our assumptions to sustaining our competitive advantage or developing new ones.¹⁵ Gen Gray emphasized the importance of ideas over rank and titles by having his Marines remove their rank insignia during after-action reviews and by calling on junior Marines first so they would not be pitted against their leaders. Cultivating this type of open environment in an organization ordinarily imbued with tradition and hierarchy was an essential part of cultivating critical thinking and judgment. Similarly, Gen Gray and others in the maneuver warfare movement actively sought and

valued the opinions of others, including (and maybe especially) a unique mix of outsiders, such as politicians, congressional staffers, journalists, military reformers, and officers from other services. While difficult, this is essential for building an organizational culture that encourages innovation.

Corps must be oriented on fostering this mental mindset. In the 1980s, Gen Gray fostered a learning environment at increasingly larger commands, and then as Commandant, that provided the spark for Marines to pursue personal lifelong learning and professional development. These Marines, in turn, helped inform and refine the maneuver philosophy by

“I often noted ... that the primary ‘weapon’ that officers possess remains their minds ... [and] that books provide the ‘ammunition’ for this weapon ... I wanted to impart a simple lesson: a properly schooled officer never arrives on a battlefield for the first time, even if he has never actually trod the ground, if that officer has read wisely to acquire the wisdom of those who have experienced war in times past.”¹⁶

—LtGen Paul K. Van Riper

Learning for Competition

Technology is causing ever increasing rates of change that are not only affecting every aspect of our lives but also changing the character of war. Since it is virtually impossible to keep pace with the rapid changes in technology, developing and maintaining intellectual readiness—our intellectual edge—is of

... developing and maintaining ... our intellectual edge—is of paramount importance to Marines ...

paramount importance to Marines who must observe, orient, decide, and act quickly. This enables them to survive in the face of unexpected threats and challenges and operate from a position of advantage against a thinking adversary. To get to the point where every Marine is intellectually ready, the entire Marine

taking intelligent initiative, thus forming a virtuous cycle of individual and organizational learning. As Commandant, Gen Gray institutionalized this embrace of education and learning by founding Marine Corps University, increasing education opportunities for enlisted Marines, and publishing the first *Commandant’s Professional Reading List*. We must return to this intellectually stimulating environment to truly enable our Marines to develop and hone the intellectual edge that will give us the advantage against any opponent.

One of the most basic, yet useful and effective, ways to develop and hone an intellectual edge is by reading. Not only does reading help build vocabulary, comprehension, and awareness, but it also gives us something that is irreplaceable in the profession of arms—vicarious experience. The profession of arms cannot be practiced daily even though the stakes for failure are so high. However, reading provides us with vicarious experiences that form the basis of the wisdom and judgment our profession requires. We cannot always choose our experiences or when we can actually

practice our profession, but we can choose the vicarious experiences we seek.

People have been fighting for millennia and writing about it for at least the last couple thousand years. Reading enables us to take advantage of all the hard-won lessons learned over time. An old Chinese adage says wise men learn from other people's mistakes, average men learn from their own, and fools learn from neither. Reading about how military professionals successfully or unsuccessfully dealt with the impact of new or even existing technologies on the character of warfare is especially useful. Understanding what these technological capabilities are and how they will impact warfare are two of the most difficult tasks facing military professionals and require constant study and monitoring. Not keeping up and allowing events around us to outpace our ability to understand their impact is malpractice in our profession.

Reading is also valuable because of what it does for our minds. Just as physical exercise strengthens our muscles and tendons to enable us to better deal with physical stressors, reading strengthens the synapses and dendrites in our brains to better deal with mental stressors. Reading about how others have dealt with challenges does not actually provide us with specific answers, but it does help us much more readily come up with answers on our own. It is like a chess player who has played thousands of games and has also read about many others.¹⁷ Without conscious thought, all that combined experience comes together in the player's mind to form a filter through which the player sifts the current game and formulates solutions. Adequate opportunities to learn the relevant cues in a given situation, which reading provides, is a necessary condition for the application of this kind of skilled intuitive judgment.¹⁸

Reading about our profession is essential, but it is also important to cast our net widely and build intellectual range. *MCDP 1-4* notes the importance of multi-disciplinary reading and educating ourselves beyond the study of war and warfighting to broaden our understanding of the larger context of

competition and how the Marine Corps contributes to it.¹⁹ Doing so also increases our intellectual range, which is invaluable in dealing with constant change in the operating environment. In today's increasingly complex world, Marines will be called upon to apply knowledge from one domain or expe-

Reading about our profession is essential, but it is also important to cast our net widely ...

rience to entirely new ones that might have previously seemed unrelated. Developing intellectual range also helps us avoid complacency and settling for what we think is "good enough." Constant

fight will look like, but the key is not being too wrong and then having the mental agility to recognize new challenges and adapt quickly. Intellectual range enables this kind of mental agility.

Reading need not be a solitary or onerous activity but instead should drive and be driven by professionally fulfilling interactions with other Marines. In his foreword to *MCDP 1-4*, Gen Berger encourages us to debate the publication. Similarly, Gen Gray encouraged the formation of professional study groups that met after hours to discuss warfare and their profession. Perhaps even more importantly, he recognized the importance leadership to the implementation of the professional military reading program he established: "Leaders should implement the program in such a way that Marines are encouraged and motivated to read and do not view professional reading as a troublesome requirement."²⁰

"Any one who has done any thinking, even a little bit, knows that it is painful. It is hard work—in fact the very hardest that human beings are ever called upon to do. It is fatiguing, not refreshing ... Far from trying to make the whole process painless from beginning to end, we must promise them the pleasure of achievement as a reward to be reached only through travail."²¹

—Mortimer Adler

change means that what worked before likely will not work again. As a result, we must understand as much as possible all the things that could impact the next fight. This is even more true today because our most likely adversaries have a much wider definition of what constitutes warfare. We will face things in the next fight that are not yet common knowledge or even considered to be a part of what we generally consider warfare. Constantly challenging our assumptions, not believing we have come up with all the answers, and remaining open to new ideas and methods are now more essential than ever. We have never been good at predicting what the next

Conclusion

As some these examples of Gen Gray demonstrate, leadership underpins both organizational learning and inspiring personal lifelong professional development. Gen Gray actively combatted the anti-intellectual current in the Marine Corps and made reading and self-study an expectation. *FMFM 1* notes education is a "a *continuous*, progressive process of development,"²² not a destination. Leaders, especially senior officers, also need to make themselves accessible to junior Marines, engage them, participate in activities with them, and provide them the top cover to experiment and even make and learn from mistakes.

Senior leaders giving attention to junior Marines is the oxygen that will ensure the initial spark to pursue life-long learning flares bigger and brighter and continues to burn. It is also integral to enhancing their commitment to the group and strengthening their identity as Marines.²³ Requirements may provide some external motivation, coerce a grudging obedience, and increase the aptitude of some Marines. However, increasing requirements is also likely to dampen the enthusiasm of many others and thus undermine the flaring of outliers and new ideas critical to maintaining our competitive advantage while also failing to appeal to our Marines' identity and professional calling to be the best.

MCDP 1-4 underscores and seeks to explain the struggle between opposing sides in competition. While not explicitly mentioned, education and maintaining our intellectual edge will also be a struggle, albeit of a slightly different sort. Technology offers the allure of silver bullet solutions and quick fixes, but education and individual and organizational learning make no such promises. They take effort—even painful effort. Change in organizations is oftentimes a messy process that takes the efforts of many over a long period of time. Unfortunately, there are no shortcuts to change and maintaining our competitive advantage. It is a continuous process that will undoubtedly feature some false starts, dead ends, and detours along the way. Thankfully, we need not embark on this journey alone and can discuss and debate this new MCDP and the Marine Corps' role in competition with each other, as the Commandant has directed.

Notes

1. Headquarters Marine Corps, *MCDP 1-4, Competing*, (Washington, DC: 2020).
2. Headquarters Marine Corps, *MCDP 7, Learning*, (Washington, DC: 2020).
3. Office of the Secretary of Defense, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge*, (Washington, DC: 2018).

4. Additionally, the Army created a new four-star command (i.e., Army Futures Command), and U.S. Special Operations Command and the Air Force established SOFWERX and AFWERX, respectively, as public-private innovation hubs and technology accelerators.

Technology offers the allure of silver bullet solutions and quick fixes, but education and individual and organizational learning make no such promises. They take effort ...

5. Gen David H. Berger specifically references *FMFM 1* in his *Commandant's Planning Guidance*, likely appealing to our maneuver warfare heritage in addition to our maneuver philosophy. We acknowledge *MCDP 1, Warfighting*, supersedes *FMFM 1*.

6. *MCDP 1-4. MCDP 7* further explains the importance of maintaining our intellectual edge by tying learning and education to competitive advantage: "In short, Marines develop an intellectual edge by learning cognitive skills and competencies that enable them to move through the observe, orient, decide, and act cycle, often referred to as the OODA loop, more quickly and effectively than the enemy. The warfighter who recognizes what is happening, adapts to the situation, and then makes effective decisions in the shortest amount of time will typically have an advantage."

7. Today's new weapons systems are also increasingly exquisite, meaning they cannot replace legacy systems on a one-for-one basis, leading to a "death spiral," wherein readiness decreases, and the size of the force shrinks. Chuck Spinney, "The Defense Death Spiral: Why is the Pentagon Underfunded?" *Time*, (July 2011), available at <https://nation.time.com>.

8. The barriers to thinking differently and innovatively in Chinese history and culture include Confucian values that tend to be quite conservative and conformist; organizational and societal systems that historically have produced administrators, not thinkers and innovators; an inclination to value slow transformation, not comprehensive change; and a lack of educational diversity and freedom of thinking. One illustration of China's differences from the West and how these barriers manifest themselves is the role of mistakes, or failures, in learning. In Chinese culture, mistakes are viewed as an inherent part of the learning process before the

novice arrives at some well-defined notion of perfection, whereas in the West, failures are also viewed as part of the process of learning to be different, doing new things, and thinking in new ways. See, for example, Lucian W. Pye and Natahan Leites, *Nuances in Chinese Politi-*

cal Culture, (Santa Monica, CA: The RAND Corporation, 1970); and Francois Juliene, *A Treatise on Efficacy: Between Western and Chinese Thinking*, (Honolulu, HI: University of Hawaii Press, 2004).

9. *FMFM 1*, for example, remind us, "No degree of technological or scientific calculation will overcome the human dimension in war." Headquarters Marine Corps, *FMFM 1, Warfighting*, (Washington, DC: 1989). Additionally, Levine, Bernard, and Nagel trace superior performance in highly competitive environments to differences in analytic skills and strategic intelligence—the ability to anticipate competitors' behavior and preempt it. Sheen S. Levine, Mark Bernard, and Rosemarie Nagel, "Strategic Intelligence: The Cognitive Capability to Anticipate Competitor Behavior," *Strategic Management Journal*, (Chicago, IL: Strategic Management Society, December 2017).

10. Alfred North Whitehead, *The Aims of Education and Other Essays*, (New York, NY: The Free Press, 1967).

11. Of course, one cannot assume that being innovative automatically leads to competitive advantages. In order to fully capture the value of innovations in organizations, especially the so-called "disruptive" ones, there are important organizational and leadership aspects that need to be in place, too. A more elaborate discussion concerning how and why innovation leads to competitive advantages, which is not the aim of this paper, would need to consider how innovations interact with other key elements in the organization, such as individuals, routines, processes, capabilities, inertias, and even the structure of the competitive environment. Each of these can either enable or hinder creating and capturing value from innovations.

12. *MCDP 1-4*.

13. James G. March, "Exploration and Exploitation in Organizational Learning," *Organization Science*, (Catonsville, MD: Institute for Operations Research and the Management Sciences, March 1991). Unfortunately, even though organizations benefit from both, exploitation and exploration oftentimes compete for fixed resources, and they both tend to extinguish the other. James G. March, "Continuity and Change in Theories of Organizational Action," *Administrative Science Quarterly*, (Thousand Oaks, CA: SAGE Publishing, June 1996).

14. During his recent hearing before the Senate Armed Services Subcommittee on Readiness and Management Support, Gen Berger hints at the challenging nature of maintaining this balance, noting the need to emphasize both readiness and innovation. U.S. Senate, *Navy and Marine Corps Readiness*, (Washington, DC: December 2020), available at <https://www.armed-services.senate.gov>.

15. *MCDP 1-4*.

16. Paul K. Van Riper, "The Relevance of History to the Military Profession: An American

Marine's View," in *The Importance of History to the Military Profession*, eds. Williamson Murray and Richard Hart Sinnreich, (New York, NY: Cambridge University Press, 2006).

17. Another analogy is building a master's tool chest so that it is never at a loss for the proper tool at the proper time.

18. Gary A. Klein, *Sources of Power: How People Make Decisions*, (Cambridge, MA: MIT Press, 1998). Malcom Gladwell popularized Klein's work on expert decisionmaking in *Blink: The Power of Thinking Without Thinking* and *Outliers: The Story of Success*. In the Foreword, *MCDP 7* similarly notes, "The most important factor in this philosophy is the importance of continuous learning throughout our careers for warfighting. Continuous learning is essential to maneuver warfare because it enables Marines to quickly recognize changing conditions in the battlespace, adapt, and make timely decisions against a thinking enemy. These skills required in war must be learned, developed, and honed over time—if neglected, they quickly atrophy."

19. *MCDP 1-4*.

20. Book on Books, "Draft Copy," (Quantico, VA: Marine Corps University), Alfred M. Gray Collection, Box List Part 2, Box 5, Folder 9, BGen Edwin H. Simmons Center for Marine Corps History, Quantico, VA. The quote is from Section 2, which John F. Schmidt authored.

21. Mortimer J. Adler, "Invitation to the Pain of Learning," *The Journal of Educational Sociology*, (Thousand Oaks, CA: SAGE Publishing, February 1941).

22. *FMFM-1, Warfighting*.

23. *MCDP 7*, for example, reminds us, "Leaders at all levels are charged with creating an environment where continuous learning becomes the standard. Leaders serve as positive examples of a disciplined approach to learning, while also providing their Marines with constructive feedback. Commanders will appropriately prioritize learning opportunities so that Marines of all ranks engage in meaningful professional development and progress in the profession of arms."



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